



# Learning Technology to Improve the Absorption of Islamic Religious Education in Elementary Schools

## Teknologi Pembelajaran untuk Meningkatkan Daya Serap Pendidikan Agama Islam di Sekolah Dasar

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**General Background:** Learning technology has become a pivotal tool in enhancing educational quality, particularly in the digital era. **Specific Background:** In Islamic Religious Education (PAI), the shift from conventional methods to digital learning tools such as videos and PowerPoint presentations promises more interactive and meaningful instruction. **Knowledge Gap:** However, studies evaluating the effectiveness and inclusiveness of learning technologies in elementary-level Islamic education remain limited, especially for diverse student needs and under-resourced schools. **Aims:** This study investigates the urgency and effectiveness of learning technology in improving elementary students' absorption of Islamic Religious Education materials. **Results:** Using a qualitative case study at SD Negeri 3 Kekait, findings show that digital media improves student engagement and understanding of abstract spiritual values, although limitations in teacher digital skills and support for students with special needs persist. **Novelty:** The study highlights the integration of spiritual values through visual media and emphasizes adaptive strategies for inclusivity, offering fresh insights into character education in religious contexts. **Implications:** These results suggest the necessity for professional development and infrastructure support to maximize the pedagogical potential of digital technology, ultimately contributing to the formation of students' moral character and improving Islamic education in the digital age.

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**Latar Belakang Umum:** Teknologi pembelajaran telah menjadi alat yang sangat penting dalam meningkatkan kualitas pendidikan, terutama di era digital. **Latar Belakang Khusus:** Dalam Pendidikan Agama Islam (PAI), pergeseran dari metode konvensional ke perangkat pembelajaran digital seperti video dan presentasi PowerPoint menjanjikan pengajaran yang lebih interaktif dan bermakna. **Kesenjangan Pengetahuan:** Namun, penelitian yang mengevaluasi efektivitas dan inklusivitas teknologi pembelajaran dalam pendidikan Islam tingkat dasar masih terbatas, terutama untuk kebutuhan siswa yang beragam dan sekolah yang kekurangan sumber daya. **Tujuan:** Penelitian ini menyelidiki urgensi dan efektivitas teknologi pembelajaran dalam meningkatkan daya serap siswa sekolah dasar terhadap materi Pendidikan Agama Islam. **Hasil:** Dengan menggunakan studi kasus kualitatif di SD Negeri 3 Kekait, temuan menunjukkan bahwa media digital meningkatkan keterlibatan siswa dan pemahaman nilai-nilai spiritual yang abstrak, meskipun masih ada keterbatasan dalam keterampilan digital guru dan dukungan untuk siswa berkebutuhan khusus. **Kebaruan:** Studi ini menyoroti integrasi nilai-nilai spiritual melalui media visual dan menekankan strategi adaptif untuk inklusivitas, menawarkan wawasan baru tentang pendidikan karakter dalam konteks agama. **Implikasi:** Hasil

penelitian ini menunjukkan perlunya pengembangan profesional dan dukungan infrastruktur untuk memaksimalkan potensi pedagogis teknologi digital, yang pada akhirnya berkontribusi pada pembentukan karakter moral siswa dan meningkatkan pendidikan Islam di Indonesia. Hasil: Dengan menggunakan studi kasus kualitatif di SD Negeri 3 Kekait, temuan menunjukkan bahwa media digital meningkatkan keterlibatan siswa dan pemahaman nilai-nilai spiritual yang abstrak, meskipun masih ada keterbatasan dalam keterampilan digital guru dan dukungan untuk siswa berkebutuhan khusus. Kebaruan: Studi ini menyoroti integrasi nilai-nilai spiritual melalui media visual dan menekankan strategi adaptif untuk inklusivitas, menawarkan wawasan baru tentang pendidikan karakter dalam konteks agama. Implikasi: Hasil penelitian ini menunjukkan perlunya pengembangan profesional dan dukungan infrastruktur untuk memaksimalkan potensi pedagogis teknologi digital, yang pada akhirnya berkontribusi pada pembentukan karakter moral siswa dan meningkatkan pendidikan Islam di era digital.

**Kata Kunci:** Teknologi Pembelajaran, Daya Serap Siswa, Pendidikan Agama Islam, Media Digital, SD

## PENDAHULUAN

Learning technology is a modern approach that integrates technology in education to enrich learners' learning experience (Rahmadani, 2024). Through digital devices, software and online resources, it creates an interactive, engaging and effective learning environment (Hasanbasri et al., 2023). Learning technologies facilitate access to materials anytime and anywhere, beyond the boundaries of the formal classroom. In addition, this technology supports personalization according to individual learning styles and speeds, allowing educators to adjust teaching methods (Ma'arif & Nursikin, 2024). Thus, technology functions as a medium for delivering information while encouraging active participation, increasing motivation, and strengthening learners' understanding.

Student absorption in Islamic religious education is the ability to understand, absorb, and apply religious teaching materials thoroughly (Subhan Adi Santoso, 2021). Deep understanding helps students internalize religious values and apply them in everyday life. A high level of absorption enables theoretical and practical understanding of Islamic teachings, including implementation in various contexts (La Hadisi & Erni Qomariyah, 2024). In Islamic religious learning, optimal absorption supports the strengthening of faith, the formation of noble character, and awareness of the importance of Islamic values in life (Andi Nurfatimah et al., 2023). This success contributes significantly to the development of students' spiritual values and moral character.

Recent research shows that technological innovation plays an important role in facing the challenges of learning Islamic Religious Education (PAI) in the digital era. With the rapid development of technology, conventional methods begin to show limitations, so learning technology becomes a relevant solution to improve the quality of Islamic Education (Hanifah Salsabila et al., 2020). One of the effective innovations in improving student absorption is the use of educational videos and PowerPoint presentations (Astuti et al., 2023). Educational videos allow students to visualize more abstract material in the form of images or animations that can deepen their understanding. Meanwhile, PowerPoint presentations with structured design and attractive visual elements help students absorb information gradually. These technologies increase student engagement through a more interactive and engaging learning experience (Melati et al., 2023). Therefore, the application of educational videos and PowerPoint is an effective solution to meet the needs of students in the digital era..

However, educational technology plays a crucial role in facilitating students' comprehension of Islamic concepts and support the internalization of Islamic values in everyday life (Nurhasanah et al., 2024). Through interactive and collaborative learning, it allows students to live the teachings of Islam in depth, not only theoretical, but also applicative (Khamim et al., 2024). For example, Educational videos showcase Islamic stories and worship practices in an engaging manner, helping students connect the material to their real lives. PowerPoint presentations with interesting visual elements encourage group discussions to examine Islamic values. This technology serves not only as a medium for delivering material, but also as a means of shaping students'

strong spiritual and moral character (Ramadhani & Musyarapah, 2024).

Before the utilization of technology, Islamic Religious Education (PAI) learning in elementary schools was dominated by conventional methods such as lectures, memorization, and discussions (Aminah & Sya'bani, 2023). However, after the use of technology in PAI, it now opens up opportunities to adapt learning to the times. Technology is not only a tool, but also a medium that connects students with global Islamic insights (Soewito, 2023). Thus, its utilization helps improve students' understanding of religious values and equips them to become a smart and noble generation in the digital era (Isti'ana, 2024). herefore, digital technology plays a vital role in enhancing students' absorption in learning PAI in elementary schools.

The use of technology in learning opens up opportunities to integrate various multimedia resources, such as videos and PowerPoint presentations, which have a significant role in increasing the attractiveness of teaching materials (Rabeka Putri Aini, 2024). Multimedia integration makes learning more interactive and attracts students' attention to be actively involved. For example, learning videos present abstract concepts in a visually concrete manner, facilitating student understanding. Meanwhile, PowerPoint presentations with attractive visual elements help organize information in a structured manner, making it easier for students to absorb the material. Thus, multimedia not only enriches teaching methods, but also increases the effectiveness of students' understanding of the material (Sumantri et al., 2024).

Previous research shows that the use of educational technology, such as PowerPoint, has a positive impact on learning Islamic Religious Education (PAI), especially in improving students' religious character. However, its contribution is still limited and has not fully considered aspects of inclusiveness, especially for students with special needs (Desi et al., 2024). In addition, the integration of Islamic values in character education in the digital era has not yet been applied in depth and applicable (Eryandi, 2023). The limitations of studies related to how technology can shape students' spiritual character holistically and meet the needs of diverse students are the main gaps in this research.

Therefore, further research is needed to explore new approaches that are not only conceptually effective, but also relevant and applicable in meeting educational needs, especially in the context of Islamic Religious Education. This study aims to examine the urgency of applying learning technology in improving students' absorption of Islamic Religious Education materials in elementary schools, focusing on the effectiveness of using technology-based media, such as educational videos and PowerPoint presentations, to strengthen students' understanding and internalize Islamic values deeply. The research also explores optimal strategies in integrating technology to create a more interactive and relevant learning experience. Thus, it is hoped that the results of this research will underlie the importance of transforming learning methods to improve the quality of Islamic religious education and shape students' noble character in the digital era.

## METODE

This research uses a qualitative method with a case study approach to explore the application of digital technology in improving students' absorption of Islamic Religious Education (PAI) materials at SD Negeri 3 Kekait. The case study approach was chosen because it allows in-depth analysis of the context, challenges and opportunities of using digital technology in learning at the elementary school level. The research subjects included 1 Islamic Education teacher, 30 grade 4 students and 37 grade 5 students, grade 4 and 5 homeroom teachers, and the school principal, who were selected using purposive sampling technique based on their involvement in technology-based learning.

Data were collected through observation of students' interaction with digital technology, semi-structured interviews with teachers, students, and principals, and documentation in the form of photos of technology devices, student evaluation results, attendance lists, and related learning activities. Data validity is strengthened by triangulation techniques, which compares the results of observations, interviews and documentation to ensure the accuracy and consistency of information. then using interactive model analysis as proposed by Miles and Huberman through the process of data collection, data condensation, data presentation and then ends with verification or conclusion drawing. This study aims to provide an in-depth understanding of the contribution of digital technology in improving students' absorption of PAI materials as well as offering effective strategies to overcome the obstacles that arise during the implementation process.

## HASIL DAN PEMBAHASAN

### 1. The Urgency of Learning Technology

#### a. Technology Infrastructure to Support Learning

The results of interviews and observations show that the use of digital technology, especially educational video media, by Islamic Religious Education (PAI) teachers plays an important role in improving students' understanding of spiritual values. The use of digital technology, especially through educational video media, has a significant role in helping Islamic Religious Education Teachers improve students' understanding of spiritual values (Zain & Mustain, 2024). As argued by Magdalena et al. (2021) Educational video media allows the presentation of complex teaching materials to be simpler, more interesting, and easier to understand. In addition, Windawati & Koeswanti (2021) stated that the use of educational videos provides a more varied and enjoyable learning experience for students. By integrating visual and auditory elements, students can receive material more effectively, thus increasing their absorption of the lesson.

This is in line with research from Furqan et al. (2024) which states that the integration of visual and auditory elements in learning can increase student engagement, this contributes to increased understanding and more optimal material absorption. In research by Noetel et al. (2021) mentioned that the effectiveness of using this media is greatly influenced by the teacher's ability to select and manage relevant video content and combine it with interactive learning methods. Therefore, The results of interviews with PAI teachers explained that the optimizing digital technology in PAI learning requires support in the form of training for teachers in the use of technology and providing adequate infrastructure in the school environment. With this approach,

PAI learning can be more inclusive, effective, and aligned with the needs of students in today's digital era.

The results also show that digital technology can increase students' interest and understanding, especially in learning abstract material such as religious values. Sosial et al. (2024) in their research revealed that audiovisual media, such as educational videos, have proven effective in bridging the gap between theory and practice, this media can strengthen students' memory of the material taught. Visual components, including illustrations, graphics, and animations, as well as auditory elements, or animation. In addition to auditory components, such as spoken narration or musical accompaniment, contribute to a more effective learning process by assisting students in understanding and remembering information (Pai et al., 2023). Therefore, the integration of digital technology in religious learning needs to be supported through adequate training for teachers, as well as the provision of supportive facilities and infrastructure to achieve maximum learning outcomes.

#### b. Optimizing Digital Media in Islamic Education Learning

Optimizing digital media in learning Islamic Religious Education (PAI) is a strategic effort to improve the efficiency and effectiveness of the learning process. Based on the research results, the use of digital media allows teachers to create a more interactive and dynamic learning atmosphere. Learning materials that were previously delivered monotonously through the lecture method can be presented in an attractive visual form, so as to encourage students to be more active in asking questions, discussing, and participating in learning activities. Research conducted by Widyastuti (2024) shows that digital media, such as PowerPoint and educational videos, play an important role in creating a more dynamic learning atmosphere. Research by Kumar et al. (2023) highlights the importance of optimizing digital media to support inclusivity in learning. Greenhow & Chapman (2020) found that digital media can encourage students to be more active in the learning process. By visualizing the material through digital media, students feel more engaged because the material presented becomes easier to understand and relevant to everyday life.

Nevertheless, interviews conducted by researchers with PAI teachers mentioned that the application of digital media in learning faces obstacles especially for students with special needs such as visual impairment who have difficulty in following visual-based learning. To overcome this obstacle, teachers show flexibility by providing additional explanations verbally so that all students can follow the learning well and teachers also need to design more adaptive learning strategies for the long term such as developing technology-based learning media that can be accessed independently by students at home. Visual-based learning that utilizes digital media, such as videos or animations, can be a significant challenge for students with visual impairments (Tria Rahayu et al., 2023). Therefore, adaptive solutions are needed to ensure all students can participate in learning effectively. Dincă et al. (2023) in their research suggested that teacher flexibility, such as providing additional explanations verbally, reflects an inclusive and student needs-oriented teaching approach. In this case, it is in line with research Irwan Suryadi (2023) which says that teachers need to be equipped with skills to integrate technology inclusively and develop learning strategies that are able to answer the diversity of student needs. The successful use of digital media in learning is not only determined by technological advances, but also by teacher competence in creating an inclusive and innovative learning process.

#### c. Barriers to the Implementation of Educational Technology



The interviews conducted by the author revealed a number of challenges in the application of technology at SDN 3 Kekait, especially related to the limited technological skills among teachers. Many teachers are not accustomed to integrating technology in the learning process, which hinders the comprehensive application of technology. Onyema (2020) highlighted that continuous professional training has an important role in supporting teachers to effectively adopt technology in learning. Meanwhile, Pahmi & Junfithrana (2024) suggested that teachers' low level of confidence in using technology is often caused by a lack of training or experience in the application of technology.

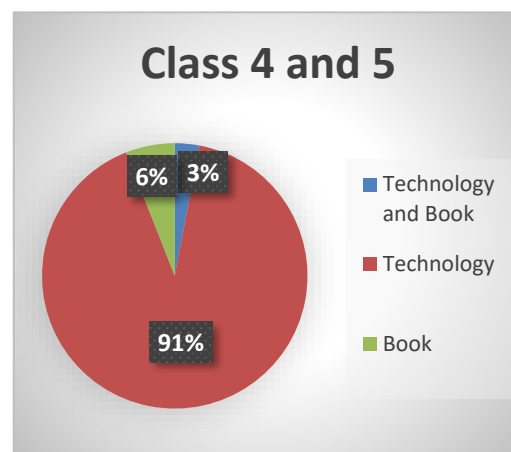
To overcome this problem, principals take strategic steps by providing training for less experienced teachers, as well as involving teachers who are already proficient in technology to mentor their colleagues. According to Nguyen & Ng (2020), collaboration between teachers in the teaching team has a very important role in creating a supportive environment for technology implementation. Research by Santosa (2022) revealed that one effective approach to increase the use of technology in schools is to involve teachers who are more experienced in technology to provide guidance to their colleagues. Meanwhile, Aziz & Zakir (2022) emphasized that continuous training is a key factor in helping teachers adopt and integrate technology into the learning process.

## 2. Increased Student Absorption

### a. Student Response and Enthusiasm for Learning Technology

Observations revealed that the use of technological media, such as visual aids, contributes positively to the level of student engagement in the classroom, students are more enthusiastic and happy to learn. Interviews with students mentioned that the use of visual aids, such as PowerPoint and videos, can attract students' attention and facilitate understanding of the material, which in turn encourages students to be more active in the learning process. Visual media often utilize elements such as color, movement, and sound to increase the attractiveness of learning materials, thus strengthening students' memory (Matruty & Que, 2021). In reserch Sahira Dina (2024) said that the increase in student enthusiasm shows that technology acts as a trigger in encouraging active participation, especially in material that was previously considered complex or less interesting.

In the application of learning technology, there are some differences in perceptions among students, in grade 4 there are 2 students who prefer to learn with a combination of technology and books and the remaining 28 students prefer to use technology alone, while in grade 5 there are 4 students who prefer to learn using only books. Previous research shows that students' preferences for learning methods are influenced by factors such as technology accessibility, comfort level with learning media, and individual learning styles. The study conducted by Garcia et al. (2020) revealed that Pinto & Leite (2020) combined the use of technology and books to improve students' understanding, as it integrates the advantages of interactive digital media with a more systematic presentation of information from printed books. Meanwhile, Gherheş et al. (2021) found that some students, especially those who are less familiar with technology or have limited access, tend to choose traditional learning methods.



Based on the diagram presented, the majority of grade 4 and 5 students tend to choose learning methods that utilize digital technology, namely 61 people, with a percentage reaching 91%. This finding shows that the application of technology in the learning process has a strong appeal and is considered effective in helping students understand the material. In contrast, only a small number of students chose a combination of technology and books, namely 4 people with a percentage reaching (6%), as well as conventional methods that rely entirely on books, namely 2 students with a percentage reaching (3%). This finding reflects a shift in students' learning preferences in the modern era, where technology offers a more engaging and interactive learning experience. However, attention still needs to be paid to students who still rely on traditional methods, so that the learning process can be inclusive for all.

### b. Understanding Spiritual Values through Technology

The results of this study reveal that learning technology has great potential in helping students apply spiritual values in learning Islamic Religious Education, visual displays such as videos on asma'ul husna for grade 4 students can support them in internalizing the attitude of patience and gratitude. Meanwhile, a video presenting the story of the prophet and ulul azmi for grade 5 students can deepen their understanding of the main characteristics of the prophet, such as patience and perseverance. Visual media, such as educational videos, are effective in improving students' understanding of abstract concepts due to their engaging and interactive presentation (Setiani et al., 2024). For example, asma'ul husna videos help students connect spiritual values, such as patience and gratitude, to situations they experience in their daily lives. In addition, Syahfitri & Nasution (2024) asserted that the use of video-based stories, such as prophet stories, can be more effective in instilling moral values, as students can more easily relate the stories to their experiences.

In this study, it was found that the role of the teacher is crucial in helping students internalize spiritual values. Teachers not only explain the importance of applying these values, but also encourage students to practice them in their daily lives. This finding is in line with Latifah (2023), opinion, which emphasizes that teachers play a central role in instilling character and moral values, especially in Islamic Religious Education (PAI) learning. Research Rambe (2024) also shows that teachers who actively provide direct examples and encourage students to apply spiritual values tend to be more successful in shaping student character. Teachers who teach through theory as well as giving examples can motivate students to apply these values in their lives (Shofiyyah et al., 2023). In addition, research by Irwin Hidayat (2019) revealed that the application of spiritual values in daily life not only deepens students' understanding, but also strengthens their social relationships with peers and the

surrounding environment.

The study conducted by Ului (2023) also highlighted the importance of teachers' active involvement in integrating spiritual values into learning materials, with the aim that students not only understand these values theoretically, but are also able to apply them in real actions. Dalimunthe (2023) also emphasized that teachers who are able to encourage students to practice spiritual values make a significant contribution to the formation of student character based on moral and spiritual values. Thus, an approach that combines the explanation of the benefits of spiritual values and encouragement to practice them in daily life has proven effective in strengthening students' understanding and application of these values.

## KESIMPULAN

This research reveals that learning technology has a significant contribution in improving students' absorption of Islamic Religious Education (PAI) materials at the elementary school level. The subthemes discussed in this study include the urgency of implementing learning technology, optimizing the use of digital media, and various obstacles in its implementation. The results show that learning technology is able to bridge the gap between theory and practice, although there are still challenges in the form of limited technological competence among teachers and the need for a more inclusive approach to support students with special needs.

One limitation of this study lies in its contextual focus, which is confined to the learning environment at SD Negeri 3 Kekait involving only grade 4 and 5 students along with PAI teachers. Consequently, the results may not be entirely applicable to other educational settings with differing technological infrastructures. Moreover, the study faced challenges associated with disparities in teachers' digital competencies, as not all educators possessed equal proficiency in utilizing educational technology, thereby affecting the uniformity of its implementation. Additionally, limitations in the school's technological infrastructure such as inconsistent internet access and a shortage of digital learning tools further hindered the broader application of technology in the classroom. These constraints underscore the need for future research that encompasses a wider variety of school environments and levels of teacher preparedness to achieve a more robust and generalizable understanding of the role of learning technology in Islamic education. Further research is needed to explore more inclusive and adaptive learning technology implementation strategies, so as to improve the quality of Islamic religious education more broadly and sustainably.

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